DOCUMENT RESUME

ED 425 842 PS 027 150

AUTHOR Rothenberg, Dianne
TITLE Early Childhood Education in a Technological Age.
PUB DATE 1998-10-00
NOTE 10p.; Paper presented at the Annual Statewide Conference of the Iowa Association for the Education of Young Children (Des Moines, IA, October 23-24, 1998).
PUB TYPE Opinion Papers (120) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Appropriate Technology; *Computer Uses in Education; Computers; *Early Childhood Education; Educational Innovation; *Educational Technology; Information Technology; *Internet; *Technological Advancement; Technology; World Wide Web
IDENTIFIERS ERIC; *ERIC Clearinghouse on Early Childhood Education

ABSTRACT

This keynote address discusses far-reaching effects of technology on the education of young children. The speech contains a brief description of the course technological advancements have taken, the way technology has been integrated into daily life, and prevalent education-related uses of the Internet. New technologies are important for early childhood educators. Utilizing the example of the ERIC Clearinghouse, arguments are presented stressing the importance of new information technology including information access, representation, and professionalization of the field of early childhood education. Issues of misuse and lack of privacy are also presented. The paper then addresses what early childhood educators gain and lose in the new information society. Using as an example the National Parent Information Network and its attempts to address issues of parental isolation from salient information, families and their exeriences in the technological world are described along with what families can gain and lose in the new technological age. The speech concludes by noting that technology fosters changes that must be acknowledged, understood, and addressed. (SD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Early Childhood Education in a Technological Age
Iowa Association for the Education of Young Children
Keynote Address
October, 1998

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY
Dianne Rothenberg
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Dianne Rothenberg
Associate Director
ERIC Clearinghouse on Elementary and Early Childhood Education
University of Illinois at Urbana-Champaign

ED 425 842

Introduction

The first information storage and transmission system was inside our own heads. What we knew (how to find a woolly mammoth, how to build a fire, which plants would kill you and which ones would not) was shared with others through gestures, examples, and eventually language, and we stored that information in our own memories. Retrieving information in those days was relatively easy, too, although failure to find information was certainly fatal more often than it is today. Back then, you either remembered what you needed to know, or asked someone else, and if the other person knew, you got an answer. In some ways, it's been downhill ever since (Janes & Rosenfield, 1992).

Today we live in an exciting era—a wonderful time when computer advertisements ask us, "Where do you want to go today?" – a time when they command us to "Think different," a time when they assure us that "all the books in the Library of Congress can be sent coast to coast—flawlessly—in the time it takes lightning to strike just once!" To paraphrase Don Ely, a colleague of mine, "Technology has become the answer, no matter what the question!"

The marketplace has done a wonderful job of selling the new information technologies to us. I suppose I say that with some cynicism, considering that I work on the Internet and computers every day, all day. In fact, at ERIC, among other duties, I have responsibility for the continuing development of 17 Web sites. But apart from the fabulous marketing of technology and online services, technology generally presents us with "mind tools" that have great and lasting appeal to a large number of people, and especially to children.

Each time that I have talked with a group like this one over the last several years, I have learned that increasing numbers of us early childhood educators use the Internet. And of course this is true not just for those who work in early childhood education, or in education generally—it is true for our entire society, including our children. Not since the invention of television have we seen such interest in—and exploitation of—the purchasing potential of adults and children through a new technology. But, unlike the early years of television, when we didn't know enough to be concerned about the effects it had on children, we are now more aware of the likely effect these technologies will have on children and we're taking a critical look at this potential impact much earlier!.

PS 027150

I think it's generally true that because we all have busy lives and too much to do—a problem not unrelated to technology, by the way—but most of us spend little time as a society discussing or even thinking about the problems and unanticipated consequences of our growing financial, intellectual, and emotional investment in technology.

We are far more likely to speculate and imagine how we might USE the new technologies than we are to think about what is gained and what is lost through their widespread adoption. Rather than consider the long-term impact on children or on ourselves, we seem eager to accept technology as the answer to almost any question!

As many of you are aware, I have spent a major portion of my work time over the past 20 years thinking about how to use technology in the service of education. In the mid-1980s, before those of us in education knew very much about the Internet and its predecessors, we dreamed of a time when we would be able to disseminate text and images in an attractive presentation to educators and parents. As that dream became a reality in this decade, we have been having a wonderful time exploring and creating new formats for sharing information. Today, I hope you'll join me in stopping just for a few minutes and think about the far-reaching effects of this technology on our lives.

Uses of the Internet

Let's take a look at the most popular uses of the Internet now. The most common uses of the new information technologies, are, in approximately this order, communication, entertainment, marketing, information seeking, advocacy, and all kinds of education–including consumer education, distance education (formal and informal), and support of regular classroom education, especially in higher education.

Anyone who doubts the tremendous surge of education-related uses of the Internet might try a search in AltaVista (an Internet search engine site) on an education-related topic. If you do that, you will notice that you've retrieved course outlines or syllabi on the topic from several universities, sometimes for distance education courses. At the June NAEYC Leadership Institute I coordinated a well attended 5-hour session on distance education, and at the upcoming NAEYC annual meeting in Toronto, we will be hosting a half-day Internet pre-conference session in which distance education—actual online courses—for early childhood educators will be a central feature. We recently received as a submission for *Early Childhood Research and Practice*, our soon-to-begin Internet journal, an article on the many distance education options available in early childhood special education. It's an impressive list.

The list of common Internet functions used to be much shorter - there was a time when I would not have included distance education or marketing as major Internet uses. Now, of course, pop-up screens with advertising are annoyingly commonplace on the Web, and many of us involved in the early education-related uses of the World Wide Web complain about its commercialization. But I remain optimistic that the Web clearly already is and

will continue to be something much more than a gigantic virtual yellow pages, as some observers have recently described it. And in fact, the interest of the commercial sector in the Internet is an important driving force in making Internet access and online services affordable.

Is it an effective marketing tool? I think companies have much to learn about Internet marketing. One of the most successful ventures on the Web is Amazon.com, the virtual bookstore. Books may well be the most commonly sold commodity on the Internet, but even Amazon.com has not yet declared a dividend for its shareholders. In the quarter ending June 30, 1998, Amazon.com's cumulative customer accounts increased by 880,000 to over 3.14 million, an increase of 415 percent from 610,000 customer accounts at June 30, 997. Repeat customer orders represented more than 63 percent of orders placed during the quarter ending June 30, 1998.! Yet Amazon declares that it will not be declaring dividends for stockholders because it "intends to retain all future earnings to finance future growth, and therefore does not anticipate paying any cash dividends in the foreseeable future" [http://www.amazon.com/exec/obidos/subst/misc/investor-relations/investor-faq.html/002-7972161-0005012; October 22, 1998]. This decision reflects the understanding of some of the most successful marketers on the Internet that online marketing holds great promise but needs much (expensive) development for the foreseeable future in order to fulfill this promise.

Why the New Technologies are Important for Early Childhood Educators

The Internet affects our language, it affects our thinking about our lives, and it affects how we communicate. Since the 1500s the printed page has been the most influential means of communication. And, by the way, those looking at the invention of the printing press were concerned that people wouldn't need to remember things anymore, and that the art of memorization would be lost. Now, electronic communication has become the most influential form of communication, although in most cases we still make paper printouts of those items of most importance to us. The Internet will not bring about the end of printed books or printed materials. It's been true in this century that every time a new communication technology has been introduced, the older ways of communicating have not ceased to exist but have continued to grow as highly popular, but slightly more specialized services - think about radio, which didn't disappear when television came along. We can expect that print will begin to occupy a slightly different position in our society, too. I can foresee a day when you'll take your 14 ounce notebook computer to the library and download books onto it - and the books will simply erase themselves from the computer on the date they are due back at the library. The computer will be so light, the resolution will be so clear, and it will be so indestructible that you'll be able to read at the beach or in bed just as you always have.

Despite its growing commercialization and the accompanying decrease in costs for individuals to access the Internet, we at the ERIC Clearinghouse, like many of you, have worked hard to make sure that early childhood education is well represented on the World Wide Web. We've done that for several reasons:

First, to make information available to the widest possible audience of early childhood educators. We assumed (and rightly so, in the beginning) that we would reach different audiences with our print materials and our Web site. Each year for 20 years, we printed and distributed more ERIC Digests and Resource Lists than we had the year before; and in the first two or three years that we had a Web site, we seemed last year was the first time that we saw printing and distribution figures decrease for print materials, during the same year, Web accesses to these same materials quadrupled in a single year. As Internet use becomes more widespread, the print and Internet audiences we reach are increasingly the SAME audience.

Second, to see early childhood education and child care well represented on the Web so that what I call the "accidental tourists" of the Internet—Web surfers—who are certainly among those with a lot of power in our society—will accidentally encounter high quality, well written, well presented, and interesting information on the education, care, and development of children under eight years of age on the Internet. And information brought to them by us! No matter whether we call this advocacy, or consumer education, or simply informing the general public—the Internet provides us with another means of applying pressure for improvement in early childhood education and services. And one of the most effective ways to advocate now is through the Internet. Too often we preach only to the choir! We need everyone to be better informed about our field and the importance of what we do, if we want them to support our efforts for improving the care and education of young children. The Internet facilitates our outreach to a whole new group who might be supportive if they understood what we are trying to do.

Third, to encourage the professionalization of the field of early childhood education and of early childhood educators. My colleague Lilian Katz likes to talk of how important it is for us not just to be a *pressure group* but to also be an *impressive group*, both in the practice of early childhood education and in our behavior as ethical, thoughtful professionals. The new information technologies can help us EMPOWER early childhood educators with the information they need to engage in continuous improvement of the practice of their profession. The word *empower*, which is all too often used these days, is defined in my dictionary at home as "to give power and authority to." In the best and truest sense of the word, the Internet can empower those of us in early childhood education by helping us become recognized authorities, and by helping us get the message out to those who we need to reach.

Of course, the Internet can be misused, too. It has some objectionable sites on it, and it has lots of potential time-wasting sites on it. It can distract us—and our children—from the many worthwhile tasks upon which we should be spending our time. Concerned parents try many kinds of filtering techniques to combat this problem–perhaps most

commonly, software filtering agents. But filters are imperfect, at best, and won't necessarily be found on your neighbor's computer. The best filter is a parent with a child—a child of any age—who is using the Internet. The Internet is not a babysitter, and it's not a safe place to visit unaccompanied by a caring adult.

On the subject of Internet cautions, one of the characteristics of the Internet is that what you do on the 'Net is NOT private. If you send an email message, it can easily be misdirected by you, or passed on to someone else by the receiver. Cookies, small pieces of data placed by the sites you visit on your computer, so that there's a record that you have been to a site, also add to the feeling that the Internet is a dangerous place. While most cookies are basically harmless, current versions of both of the most popular browsers offer you the means to prevent cookies from being set on your computer.

Beyond the lack of privacy of Internet communications are some more important privacy issues. Some companies are marketing cameras for day care centers and classrooms that broadcast to the Internet a continuous picture of what's going on there. Parents pay for a password to be able to log in to the site where they can see what is happening, or the Center pays for the setup and uses it to advertise to parents that their Center is virtually "open" to them all day. Is this "big brother?" Or is it a reasonable way to involve parents in what their children are doing in their absence?

What Early Childhood Educators Gain and Lose in the New Information Society

We Gain...	We Lose...
Improved access to experts, expert advice, and high quality, up-to-date, information on research and best practice	Sense of isolation
Greater sense of professionalism/ a better "image"	Sense of inferiority (in our own or others' eyes) based on the idea that "anybody's grandmother" can do what we do!
More avenues to learning	Excuses for lack of good staff development programming
More accountability for our actions	Privacy

We have often heard two particularly salient arguments against Internet use among early childhood educators. The first argument is related to equity in access to computers and the Internet for early childhood practitioners who are not well paid. Yet I keep hoping

they will invest in learning something new and to find a way to make use of what they've learned, often without having a computer at home.

The second argument against bothering with the Internet often comes from those early childhood practitioners at greatest stress—those who are working with children in poverty, children who are at-risk, or who have special needs. They tell us that learning about or using technology themselves is pretty low on their list of priorities. Faced with nearly overwhelming professional stresses and the fatigue and other accompanying impacts that such stressful work can have on one's personal life, these professionals understandably feel at times as if learning about computers or the Internet interferes with their more important tasks.

It is likely that both these concerns will diminish over time, as computers and the Internet become more a part of our everyday lives. Already, many public libraries and other agencies in Illinois, for example, provide public access terminals for the general public at no fee. We encourage schools to open their computer labs to the parents and neighbors who have funded them in the first place. Communities will continue to find creative ways to increase access to the new information technologies for all of us. The University of Illinois Graduate School of Library and Information Science recently received a large federal grant to collect 1,000 outdated computers from local businesses and, with the help of teenagers from low-income families working with graduate students, upgrade or rebuild those computers; each teenager who takes part in the program gets to take a computer home, and the rest are being distributed throughout the community to low-income families and organizations. Such efforts are significant. At the Families, Technology, and Education Conference we hosted a year ago, parents equated Internet access with power and influence in our society. One of their most cogent hopes was for greater access for all families in all parts of the community.

In addition to community efforts, over the next few years we are likely to see a continuing reduction in the cost of computers and Internet use to individuals, largely because business and industry see widespread use of the World Wide Web, in particular, as a way to sell us, their customers, more "stuff." We will also find that the integration of technologies offers new and often easier ways to make use of the Internet for those with little time, money, or energy to learn something new. Computers, cable TV, Web TV, telephone lines, satellite dishes, wireless technologies—will all be used to present the early childhood professionals and the general public with new opportunities for easy access to the World Wide Web.

Families and the New Information Society

As many of you may know, our Clearinghouse has an ongoing special project called the National Parent Information Network, which is intended to create a high quality WWW site for parents, and to provide question-answering services for and about parents and parenting. Since late 1993, NPIN has been providing these services through the World Wide Web but also by toll-free telephone.

What we have learned about families in the new information society is that early childhood educators aren't the only ones who feel isolated. Parents often live far from their own families; they may be fairly transient in their communities or neighborhoods, or they may lack close friends or neighbors from whom they can ask child-rearing advice. They may even be embarrassed to ask those neighbors or relatives who *are* close at hand about certain issues or concerns. For these parents, the Internet provides a comfortable, anonymous way to find out that they aren't the only ones struggling with a 4-year-old who still has temper tantrums, 6-year-old who still sucks her thumb, or an 8-year-old who can't read fluently yet. They can use the Internet to ask an "expert" a question and to discuss their concerns with other parents in Internet discussion groups.

What Families Gain and Lose in the New Information Society

We Gain...	We Lose...
Improved access to experts, expert advice, and high quality, up-to-date parenting and education-related information	Knowledge about the "authority of the source" of the information
New communities not based on geography but on similar interests	Isolation
Ability to be in frequent, low-cost contact with family members who are far away.	Letter writing as an art/communication form
More access to new product information, shopping, news, government information...	Privacy
More ways to hold child care providers and educators accountable	-- Time and children's attention to yet another medium - radio, TV, Internet!

Children and Technology, esp. The Internet

Jane Healey speaks of "exaggerated hopes and unmet promises" of technology in education in her new book, *Failure to Connect: How Computers Affect Our Children's Brains - For Better or Worse*. The publication of this book, following her earlier book titled *Endangered Minds*, may foreshadow a new period of backlash about computer use with young children similar to a time in the early 1980s, a time when, as many of you may remember, computer use by children under the age of 8 was considered inappropriate.

I think there has always been an undercurrent of this attitude among some early childhood educators, partly because of the lingering romantic view of early childhood as a special, almost magical time, but also because of concerns that computer use is not developmentally appropriate. But there are competing views. Many parents think that earlier is better in terms of computer use - after all, it's common sense that if we want children to do better at something, we start them earlier! Some early childhood researchers and educators who have been studying software and young children for nearly two decades believe they are or can be appropriate for young children. So, how can early childhood practitioners make judgments about computer use—and Internet use—with young children? What principles can we use to guide our actions?

A simple answer - but one we frequently hear - is that we should take what we know about DAP and apply it to possible uses of computers with young children. The only problem with that view is that some research suggests that teachers have a hard time sorting out what is developmentally appropriate in their traditional teaching practices. I think it is likely that we'll find it equally difficult to be sure of what DAP looks like in technology-rich environments. So, what can we do? Most early childhood educators, as they respond to a demand for computers in early childhood education environments, depend on experts, who suggest limited use of high quality software programs that are open-ended, offer tools to children that extend their abilities, and that don't consist of endless drills. A moderate amount of exposure to computers and good software, especially if done with pairs or groups of children, is unlikely to hurt children's development and may even enhance some language development. But as to whether there are long-term clear benefits or advantages for young children to begin using computers in preschool programs, I think the research evidence is inadequate to support such a position.

Some of the newer technologies, including the Internet, raise more concerns related to their use with young children. Some troublesome preliminary research results in studies of older users bear watching. For example, some research that you may have seen reported in the press suggests that high levels of Internet use in young adults can lead to depression in a significant number of users. Moreover, many of the new children's game machines now provide facilities and interaction techniques that we have had very little time to develop interaction rules for, let alone enough time to understand the complex mental processes involved in them (Morgan and Morgan, 1998). Violent video games and Internet sites raise another cautionary note. We do not yet have reliable research findings

to guide our use of these technologies with children, and a cautious approach is probably warranted.

Conclusion

The information society is in its infancy. We have seen huge changes in technology over the last decade, and the rate of change, according to many observers is accelerating rather than slowing down. The new information technologies continue to increase the expense involved in operating our organizations, but they have allowed us to provide new services for more people, as well.

I've often heard speakers say that these new technologies are neutral—that we can shape them to improve our lives or we can leave them to others and take the risk that they will make our lives miserable. Certainly we all need to be mindful of equity and access issues, threats to our privacy, and the need to encourage the development of more positive uses of these technologies.

But I would argue that computers and the Internet and all the emerging information technologies are anything but neutral. In every area of life, they foster change and they threaten the status quo. They reduce the significance of geographic distance. At least in the short term, they have provided a clear distinction between those who HAVE easy access to computers and those who do NOT. They may diminish the place of tradition in our lives in favor of the "here and now" and the future, at least for many young users. They encourage an interdependent world (and a stock market) in which what happens far away can affect us all. Few of us are immune to the lure of technology. It affects our language and the metaphors we use to express ourselves in hundred different ways. But technology requires of us more critical habits of mind, at the same time that it offers us possibilities for communication and interaction that were unimaginable a generation ago.

References

Janes, Joseph W., & Rosenfeld, Louis B. (1992). From security to serendipity, or, how we may have to learn to stop worrying and love chaos. *Proceedings of the ASIS mid-year meeting. Networks, telecommunications, and the networked information resource revolution. Albuquerque, NM, May 27-30, 1992*, 75-82. EJ 450 409.